

Replace the paragraph beginning at page 40, line 1 with the following rewritten

paragraph:

44 -- Another implementation adjusts for discontinuities by using warping. Although the warping process will be described hereinafter with reference to horizontal and vertical alignment values to maintain consistency with early examples, the warping process also is applicable to other types of transformations. In one example of a warping technique, each block can be identified with a control point at its center. The horizontal and vertical alignment values that were obtained for each block can become the alignment values for the block's control point. The alignment values for the remaining pixels within the image may be obtained by interpolating between the alignment values of the nearest control points. These alignment values are then applied to the pixels within the non-reference image.--

IN THE CLAIMS

Please amend claims 1, 26, 27, 46, 47, 54, and 59, and add new claims 82-89 as follows:

1. (Amended) A method for automatic registration of film separations, the method comprising:

AS accessing component images that are based on digitized film separations, wherein each of the component images includes a set of gray-level pixels;

determining automatically an alignment vector for at least a part of a selected component image from among the accessed component images; and

AS reducing one or more film distortions by applying the alignment vector to the part of the selected component image.

26. (Amended) A computer program for automatic registration of film separations, the computer program residing on a computer-readable medium and comprising instructions for causing a computer to perform operations including:

accessing component images that are based on digitized film separations, wherein each of the component images includes a set of gray-level pixels;

AB determining automatically an alignment vector for at least a part of a selected component image from among the accessed component images; and

reducing one or more film distortions by applying the alignment vector to the part of the selected component image.

27. (Amended) An apparatus for automatic registration of film separations, the apparatus comprising one or more processors programmed to perform at least the following operations:

accessing component images that are based on digitized film separations, wherein each of the component images includes a set of gray-level pixels,

determining automatically an alignment vector for at least a part of a selected component image from among the accessed component images, and

reducing one or more film distortions by applying the alignment vector to the part of the selected component image.

46. (Amended) A computer program for performing registration of digitized images, the computer program residing on a computer-readable medium and comprising instructions for causing a computer to perform operations including:

selecting a first area in each of a first image and a second image;

determining which pixels in the first areas of the first and second images are feature pixels;

comparing the first areas of the first and second images by weighting (a) a comparison of feature pixels in the first area of the first image with corresponding pixels in the first area of the second image differently than (b) a comparison of non-feature pixels in the first area of the first image with corresponding pixels in the first area of the second image; and

determining a transformation for the first area of the first image based on the comparison of the first areas of the first and second images.

47. (Amended) An apparatus for performing registration of digitized images, the apparatus comprising one or more processors programmed to perform at least the following operations:

selecting a first area in each of a first image and a second image;

determining which pixels in the first areas of the first and second images are feature pixels;

comparing the first areas of the first and second images by weighting (a) a comparison of feature pixels in the first area of the first image with corresponding pixels in the first area of the second image differently than (b) a comparison of non-feature pixels in the first area of the first image with corresponding pixels in the first area of the second image; and

M determining a transformation for the first area of the first image based on the comparison of the first areas of the first and second images.

54. (Amended) A method of performing registration of digitized images, the method comprising:

selecting a first image and a second image;

defining a first set of features and a second set of features;

determining a first alignment vector for a part of the first image based on the first set of features;

AB determining a second alignment vector for the part of the first image based on the second set of features, the determining comprising:

using the first alignment vector as an initial second alignment vector, and

choosing the second alignment vector for the second set of features from a set of candidate alignment vectors obtained by varying the initial second alignment vector;

modifying the first alignment vector, the modifying comprising:

using the second alignment vector as an initial first alignment vector, and

choosing the first alignment vector from a set of candidate alignment vectors obtained by varying the initial first alignment vector; and

repeating the determining of the second alignment vector and the modifying of the first alignment vector until a particular stopping condition is met.

AG 59. (Amended) The method of claim 54 wherein the stopping condition is met when the first and second alignment vectors determined after a particular iteration are equivalent to the first and second alignment vectors after a previous iteration.

82. (New) The method of claim 8 wherein determining the alignment vector comprises:
dividing the selected component image into a set of areas;
determining an initial alignment vector for a particular area based on at least one previously determined alignment vector for at least one other area, where a center of the other area is not farther in proximity to a center of the selected component image than is a center of the particular area; and
determining the alignment vector for the particular area based on the initial alignment vector for the particular area.

A10 83. (New) The method of claim 82 wherein the other area is an inward radial neighboring area of the particular area, a neighboring area of the particular area being defined as an area that shares a common border or at least one pixel with the particular area.

84. (New) A method of performing registration of digitized images, the method comprising:
dividing a selected component image into a set of areas; and
determining a transformation for a particular area in the set of areas based on at least one previously determined transformation for at least one other area, where a center of the other area

is not farther in proximity to a center of the selected component image than is a center of the particular area.

85. (New) The method of claim 84 further comprising:

grouping the set of areas into multiple rings that form at least one inner ring and at least one outer ring; and

determining transformations for at least two areas of the set of areas in an order that begins with at least one area within the inner ring and proceeds to at least one area within the outer ring.

AD 86. (New) The method of claim 84 wherein determining transformations comprises:

determining an initial alignment vector for a particular area of the set of areas based on a previously determined alignment vector corresponding to at least one neighboring area, where the neighboring area is defined as an area that shares a common border or at least one pixel with the particular area; and

determining an alignment vector for the particular area based on the initial alignment vector for the particular area.

87. (New) A computer program for performing registration of digitized images, the computer program residing on a computer-readable medium and comprising instructions for causing a computer to perform operations including:

dividing a selected component image into a set of areas; and

determining a transformation for a particular area in the set of areas based on at least one previously determined transformation for at least one other area, where a center of the other area is not farther in proximity to a center of the selected component image than is a center of the particular area.

88. (New) An apparatus for performing registration of digitized images, the apparatus comprising one or more processors programmed to perform at least the following operations:

dividing a selected component image into a set of areas, and

determining a transformation for a particular area in the set of areas based on at least one previously determined transformation for at least one other area, where a center of the other area is not farther in proximity to a center of the selected component image than is a center of the particular area.

89. (New) The method of claim 1 wherein reducing one or more film distortions comprises correcting one or more film distortions.
